



Air Quality Permitting Statement of Basis

March 26, 2004

**Tier II Operating Permit and Permit to Construct
No. T2-020121**

POTLATCH, ST. MARIES

Facility ID No. 009-00030

Prepared by:

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FINAL PERMIT

Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE	3
1. PURPOSE	4
2. PROJECT DESCRIPTION	4
3. FACILITY DESCRIPTION	4
4. SUMMARY OF EVENTS	4
5. PERMIT HISTORY	5
6. TECHNICAL ANALYSIS	5
7. PERMIT REQUIREMENTS	6
8. AIRS INFORMATION	13
9. FEES	13
10. RECOMMENDATION	14
APPENDIX A- DISPERSION MODELING	15
APPENDIX B- EMISSION ESTIMATES	16
APPENDIX C- FEE CALCULATION SHEET	17
APPENDIX D- RESPONSE TO COMMENTS ON FACILITY DRAFT	18
APPENDIX E- RESPONSE TO COMMENTS ON PROPOSED PERMIT	19

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
gr/dscf	grain (1 lb = 7,000 grains) per dry standard cubic foot
HAPs	Hazardous Air Pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
MACT	Maximum Available Control Technology
MMBtu/hr	Million British thermal units per hour
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO ₂	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01 Sections 200 through 228 and 400 through 406, *Rules for the Control of Air Pollution in Idaho*, for permits to construct and Tier II operating permits.

2. PROJECT DESCRIPTION

This project is for the issuance of a Tier II operating permit and permit to construct for Potlatch Corporation located at 2200 Railroad Avenue in St. Maries. The emissions sources of the facility are: one Hurst wood-waste-fired boiler, four lumber drying kilns, and an oil and edge seal process.

3. FACILITY DESCRIPTION

The Hurst wood and wood-waste-fired boiler produces steam, which is used to heat four lumber-drying kilns. Various types of wood are dried in the kilns. The particulate emissions from the boiler are controlled by a multiclone and an ESP.

The oil and edge-seal process applies coatings to plywood panels making them suitable for use as concrete forming material. Untreated plywood panels are placed one at a time on a conveying system and transported through a modified glue spreader that uses two large rollers to apply the coating to the upper and lower surfaces of the panels. The upper surface of the panels is flood-coated with the release agent using a low-pressure sprayer nozzle before the panel goes through the spreader rolls. Excess release agent is collected and recycled in the lower reservoir under the spreader. The panels are then stacked, and an edge-sealing compound is sprayed on the edges of the stacked panels.

4. SUMMARY OF EVENTS

3/93	Potlatch purchased the lumber drying division from Edwards Forest Industries, Inc. The Hurst boiler was permitted, prior to the purchase by Potlatch, by Permit to Construct (PTC) No. 0120-0008, which was issued to Edwards Forest Industries, Inc.
9/22/94	DEQ received Potlatch's submittal reporting the March 1993 purchase of the boiler and dry kilns from Edwards Forest Industries, Inc.
10/17/94	DEQ's letter states that the PTC No. 0120-0008 is not transferable and specifies three options for obtaining a new PTC.
8/19/96	DEQ received an application for a Tier II operating permit (Tier II). The application was prepared in accordance with Potlatch's discussions with DEQ. Potlatch applied for the Tier II in order to establish synthetic minor limits. A Tier II permit was not issued due to tribal land issues.
10/9/96	DEQ's letter indicates that the Potlatch St. Maries mill (on tribal land) and the lumber drying division (on state land) are one facility because the lumber drying site accepts only lumber from Potlatch's St. Maries mill.
9/11/98	DEQ received PTC application for a wood-fired boiler and lumber drying kilns. Potlatch requested to review a draft permit, DEQ prepared a facility draft permit, but it was never issued due to tribal land issues.
3/31/99	DEQ received a PTC application for the oil and edge seal process at Potlatch.
5/5/99	PTC application was declared complete.
7/21/99	PTC No. 009-00001 issued for oil and edge seal process.

6/6/00	DEQ's CDA regional office requested a Tier II permit be issued for Potlatch using the August 8, 1996 application. Permit was not issued because modeling was not properly conducted to demonstrate facility NAAQS compliance.
9/9/02	Amendment to the Tier II application sent to DEQ. Amendment included modeling.
11/21/02	Application amendment declared complete.
1/22/03	Draft permit mailed to facility.
2/10/03	Comments received from facility.
5/23/03	Second draft mailed to facility with draft Tier I permit.
7/8/03	Comments received from facility.
9/30/03	Meeting between facility and DEQ to discuss permitting issues.
10/31/03	DEQ received facsimile from facility with additional information.
12/2/03	Proposed Tier II operating permit/permit to construct was issued.
12/18/03 –	Public comment period
1/16/04	
1/21/04	Comments received from Potlatch only.

5. PERMIT HISTORY

The following is a summary of the permit history:

7/21/99 PTC No. 009-00001 issued for oil and edge seal process.

6. TECHNICAL ANALYSIS

6.1 Emissions Estimates

The emissions calculations for the boiler and the kilns are shown in Appendix B. For the boiler, the criteria pollutants were estimated using AP-42, except for PM₁₀, which was estimated using the ESP manufacturer guaranteed grain loading efficiency of 0.08 gr/dscf. For the kilns, emissions were estimated using the highest emission factor to be conservative. Particulate and VOC were estimated using AP-42, 11/93, for lumber drying. PM₁₀ was estimated using the combination of emission factor/wood type maximum throughput value that resulted in the highest estimated emissions, to be conservative. The emission factors are from NCASI (National Council for Air and Stream Improvement).

The oil and edge seal emission estimates were incorporated from the PTC issued for that process on 7/21/99.

6.2 Modeling

The dispersion modeling memo is included as Appendix A. The model shows that total ambient concentration for PM₁₀ is 89% of the daily and annual NAAQS.

6.3 Area Classification

Potlatch St. Maries, Benewah County, Idaho, is located in AQCR 62 and UTM zone 11. The area is classified as unclassifiable for federal and state criteria air pollutants. There are no Class I areas within 10 kilometers (km) of the facility.

6.4 Facility Classification

The facility is defined as a major facility because the facility is permitted to emit greater than 100 tons per year each of VOC and CO. Emissions from the part of the facility located on tribal lands are not included in this analysis or permit. The AIRS/AFS facility classification is A. This facility is a lumber drying facility, SIC 2421.

7. PERMIT REQUIREMENTS

This section describes the regulatory analysis of the applicable air quality rules with respect to this T2.

7.1 Regulatory Review

IDAPA 58.01.01.401 Tier II Operating Permit

A Tier II operating permit is required to establish operational requirements necessary to ensure compliance with applicable emission standards.

In a meeting on September 30, 2003, between DEQ and Potlatch, it was agreed that no mass emission rate limits are required for the boiler, because the throughput limit for steam and the grain loading limit were sufficient to ensure that the emissions of all estimated pollutants would not exceed the estimated values which have been modeled and have demonstrated modeled compliance with the NAAQS (for the criteria pollutants). It was also agreed that no mass emission rate or throughput limits are required for the kilns because emissions were based on the maximum throughput and on emission factors. Monitoring and recordkeeping are required for the throughput to ensure that the throughput stated in the application is not exceeded. This will ensure that the estimated emissions will not be exceeded by calculation using the current NCASI emissions factors, and these estimated emissions have been modeled and show compliance with the NAAQS for criteria pollutants.

7.2 Facility-wide Conditions

Fugitive Particulate Matter - IDAPA 58.01.01.650-651

Requirement

Facility-wide Condition 2.1 states that all reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.

Compliance Demonstration

Facility-wide Condition 2.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate dust. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive dust which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Facility-wide Condition 2.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive PM dust whether or not a complaint is received, Facility-wide Condition 2.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive dust during daylight hours and under normal operating conditions. If the permittee determines that the fugitive dust is not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive dust inspection.

The periodic inspections are required to be done monthly to be consistent with the Potlatch-Clearwater permit.

Both Facility-wide Conditions 2.3 and 2.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive dust is not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Control of Odors - IDAPA 58.01.01.775-776

Requirement

Facility-wide Condition 2.5 and IDAPA 58.01.01.776 both state that: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."*

Compliance Demonstration

Facility-wide Condition 2.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Facility-wide Condition 2.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Visible Emissions - IDAPA 58.01.01.625

Requirement

IDAPA 58.01.01.625 and Facility-wide Condition 2.7 state that *"(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than twenty percent (20%) opacity as determined . . ."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this rule.

Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, Facility-wide Condition 2.8 requires that the permittee conduct routine visible emissions inspections of the facility. The permittee is required to inspect potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission covered by this section, the permittee must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of thirty observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each visible emissions inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

If the monthly see/no see observations indicate that no visible emissions are observed for four consecutive months or if Method 9 observations indicate that the opacity is below 20% for four consecutive months, or any combination of see/no see or Method 9 observations indicate no visible emissions or opacity, the frequency of observations decreases to once per quarter. If any quarterly Method 9 observations indicate opacity greater than 20%, the observation frequency reverts to monthly.

Should a specific emission unit have a specific compliance demonstration method for visible emissions that differs from Facility-wide Condition 2.8, then the specific compliance demonstration method overrides the requirement of Condition 2.8. Facility-wide Condition 2.8 is intended for small sources that would generally not have any visible emissions. The boiler and the kilns have been assessed by the Coeur d'Alene Regional Office inspector to generally have no visible emissions.

Facility-wide Condition 2.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Excess Emissions – IDAPA 58.01.01.130-136

Requirement

Facility-wide Condition 2.9 requires the permittee to comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. However, it should be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under subsection 131.02 of the *Rules* to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states "... *The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05.*" Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

Compliance Demonstration

The compliance demonstration is contained within the text of Facility-wide Condition 2.9. No further clarification is necessary here.

Open Burning – IDAPA 58.01.01.600-616

All open burning shall be done in accordance with IDAPA 58.01.01.600-616.

Renovation/Demolition – 40 CFR 61, Subpart M - Asbestos

The permittee is required by 40 CFR 61 to comply with all applicable portions of 40 CFR 61, Subpart M, when conducting any renovation or demolition activities at the facility.

Test Methods – IDAPA 58.01.01.157

The test method(s) for each emissions unit limit is listed in the permit in accordance with EPA's comments as follows below. If the permit requires any testing, it shall be conducted in accordance with the procedures in IDAPA 58.01.01.157.

Reports and Certifications

All periodic reports and certifications required by the permit shall be submitted within 30 days of the end of each specified reporting period to the appropriate DEQ and EPA regional office.

Monitoring and Recordkeeping

The permittee is required to maintain recorded data in an appropriate location for a period of at least five years in accordance with IDAPA 58.01.01.322.07.c. Though specific applicable requirements may have record retention times of less than five years, this requirement requires the permittee to maintain all recorded data for a minimum of five years, which will satisfy those shorter record retention times.

Fuel-Burning Equipment – IDAPA 58.01.01.675

The facility shall comply with the provisions of IDAPA 58.01.01.675 for the Hurst boiler. See Hurst boiler section of this technical memorandum for further discussion.

Fuel-Sulfur Content – IDAPA 58.01.01.725-729

The facility does not use fuel oil. The boiler uses wood and wood-waste as fuel.

NSPS – 40 CFR 60

- The lumber drying kilns are not subject to any NSPS performance standards.
- The requirements under 40 CFR 60, Subpart Db, apply to steam-generating units built after June 19, 1984, and with a heat input greater than 100 MMBtu/hr. Subpart Dc applies to steam-generating units constructed after June 9, 1989.
- The Hurst boiler was built in 1987 and has a maximum design heat input of 52 MMBtu/hr. Therefore, it is not subject to the requirements of Subparts Db or Dc.

NESHAPS – 40 CFR 61 and 63

No provision contained in either 40 CFR 61 or 63 applies to this facility.

7.3 Hurst Boiler

Fuel Burning Equipment Particulate Matter Standard

Permit Condition 2.13 limits the boiler PM emissions to 0.08 gr/dscf.

Compliance Demonstration

The Hurst boiler PM and PM₁₀ emissions are required to be controlled by a multiclone and an ESP.

The permittee is required to continuously measure the secondary voltage and amperage applied by each transformer-rectifier (T/R) set to the discharge electrodes and to maintain the equipment within O&M manual specifications.

The steam rate will be limited to a level that has demonstrated compliance with the grain-loading rule. A calculation can be used to adjust the allowable steam rate if the performance test does not show compliance at 120% of the average steam rate.

Compliance with the grain loading requirement and opacity will be determined by the testing required in the permit. Monitoring requirements set out in the O&M manual for the ESP will indicate ongoing compliance with the standard. The performance test is required to be done on a schedule as follows:

If the particulate grain loading measured in the initial compliance test is less than or equal to 75% of the applicable emission standards specified in Permit Condition 2.13, no further testing shall be required during the life of the permit. If the particulate grain loading measured during the initial compliance test is greater than 75% but less than or equal to 90% of the applicable emission standards specified in Permit Condition 2.13, a second test shall be required in the third year of the permit term. If the particulate grain loading measured during the initial compliance test is greater than 90% of the applicable emission standards specified in Permit Condition 2.13, the permittee shall conduct a compliance test annually.

This frequency does not apply to the breakdown situation in which only one T/R set is operated temporarily until replacement parts arrive and are installed for the non-functional T/R set.

The manufacturer of the ESP stated that the ESP will reduce particulate emissions below the permitted limit with only one of the two T/R sets operating. The facility requested that, if testing shows that the ESP adequately controls particulate emissions with only one T/R set operating, that the boiler be allowed to operate temporarily if one T/R set fails while parts are obtained and repairs are made to the non-functional T/R set. Spare parts are expensive and are therefore not kept on site. The facility estimated that the repairs would be complete in approximately three weeks from the time the unit became non-functional. Based on this, Permit Condition 3.3.2 was written to allow such operation.

No visible emissions monitoring is required specifically for the boiler, multiclone, or ESP. The facility-wide conditions require a monthly walk-around see/no see evaluation of all potential sources of visible emissions, with corrective action or a Method 9 opacity test required if visible emissions are present. Compliance between the monthly evaluations can be demonstrated by source testing initially, then by maintaining the process rates within the parameters determined during the source test. These parameters are monitored and recorded. Particulates are produced at the tested rate when wood fuel is burned, producing steam at a measured rate.

7.4 Lumber Drying Kilns

NAAQS Compliance for PM₁₀

The facility is required by IDAPA 58.01.01.400 and 203 to demonstrate compliance with the NAAQS.

Compliance Demonstration

The PM emission rate was estimated using a maximum potential throughput of 102 million board feet per year and an emission factor from NCASI of 0.082 lb/MBF, resulting in a PM₁₀ emission rate of approximately 0.9 lb/hr. This value was modeled and showed compliance with the 24-hour and annual NAAQS for PM₁₀.

Because the emission rate was based on the board feet lumber scale, tracking of the lumber dried is required monthly. The lumber is dried on a batch basis, so daily tracking would be unrepresentative of the amount of lumber dried. There would be double counting for a batch that was in the kiln for more than 24 hours or was placed in the kiln during one day and not taken out until the next. Therefore, an average hourly kiln process rate can be determined by dividing the monthly amount by the number of hours in a month.

Monitoring and recordkeeping is required monthly and annually for the kiln throughput in order to compare the actual throughput to the maximum throughput requested in the application.

Process Weight

The process weight rule applies to the four kilns because these kilns emit particulates and commenced operation on or after October 1, 1979. The emissions are limited according to the equation written in the permit.

Compliance Demonstration

The dry kiln capacity (by permit limit) is 102,000 Mbf/yr for all kilns combined. This rate is for western red cedar, which has the highest processing rate of all the types of wood. The emission factor for PM or PM₁₀ used is 0.082 pounds per thousand board feet. The emission factor is published by NCASI. This results in a maximum PTE PM or PM₁₀ of 4.18 T/yr.

The following calculations establish the lumber drying kilns process weight and the corresponding PM emissions limitation.

$(32 \text{ lb/cf}^3) \times (0.054 \text{ cf/bf}^2) \times (102 \text{ MMbf/year}) / (8760 \text{ hours kiln op./year}) = 20,121 \text{ lb/hr}$, average process weight for one hour.

¹ AP-42, Appendix B, density of Douglas fir (representative density for all lumber species).

² Conversion from 1 bf, based on 2-by-4s, to 1 cf.

The PM process weight limitation for sources constructed on or after October 1, 1979, and having a process weight above 9,250 lb/hr, is determined using the following equation (IDAPA 58.01.01.701):

$$E = 1.10(PW)^{0.25}$$

$$E = 1.10(20,121)^{0.25} = \underline{13.1 \text{ lb/hr allowable PM emissions}}$$

Actual estimated hourly PM emissions:

$$102,000 \text{ Mbf/yr} \times 0.159 \text{ lb PM/Mbf}^* \text{ lumber} / 8760 \text{ hr/yr} = \underline{1.85 \text{ lb/hr average hourly PM emission rate.}}$$

* AP-42, 11/93, Lumber drying, total condensible PM (0.11 + 0.049)

The estimated hourly PM emissions are less than the calculated allowable PM emission limit.

Oil and Edge Seal Process

For a discussion of the oil and edge seal process permit conditions, refer to the 7/21/99 technical memorandum for PTC No. 009-0001.

Emissions Summary

Table 1.1 SUMMARY OF EMISSIONS LIMITS

Potlatch Corp., St. Maries Emission Limit ^a - Annual ^b (T/yr)	
Source Description	VOC (T/yr)
Oil and edge-seal process	39.9

^a As determined by a pollutant-specific EPA reference method, a DEQ-approved alternative, or as determined by DEQ's emissions estimation methods used in this permit analysis.

^b As determined by multiplying the actual or allowable (if actual is not available) pound-per-hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.

Table 1.2 POTENTIAL TO EMIT SUMMARY - INFORMATIONAL PURPOSES ONLY

Potlatch Corp., St. Maries Potential to Emit ^a - Hourly (lb/hr), and Annual ^b (T/yr)										
Source Description	Hourly PM/PM ₁₀ ^c Emissions (lb/hr)	Annual PM/PM ₁₀ ^c Emissions (T/yr)	NO _x		CO		VOC		SO _x	
			lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Hurst boiler	8.1/8.1	35.5/35.5	11.9	52.0	32.4	141.9	2.1	9.0	1.4	5.9
Four lumber-drying kilns	1.85/0.93	8.1/4.1					19.79	86.7		
Oil and edge-seal process							39.9			
Total:	9.95/9.03	43.6/39.6	11.9	52.0	32.4	141.9	21.89	135.6	1.4	5.9

^a As determined by a pollutant-specific EPA reference method, a DEQ-approved alternative, or as determined by DEQ's emissions estimation methods used in this permit analysis.

^b As determined by multiplying the actual or allowable (if actual is not available) pound-per-hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.

^c Includes condensibles.

Compliance Review

A PTC was required to be obtained prior to construction of the boiler and kilns. A PTC was obtained by the previous owners of the boiler and kilns, but a new PTC was not obtained prior to the purchase or operation of the equipment by Potlatch from the original owners (Edwards). The technical memorandum for the proposed permit stated that DEQ was in the process of making a compliance determination and resolution. This permit to construct and Tier II operating permit establishes enforceable limitations to limit the facility's potential to emit and also identify Potlatch as the owner and operator of the St. Maries Complex. Consequently, this permitting action resolves past compliance issues.

8. AIRS INFORMATION

Table 8.1 AIRS/AFS^a FACILITY-WIDE CLASSIFICATION^b DATA ENTRY FORM

AIR PROGRAM ^a	SIP ^a	PSD ^a	NSPS ^a (Part 60)	NESHAP ^a (Part 61)	MACT ^a (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
POLLUTANT							
SO ₂	B						U
NO _x	B						U
CO	A					A	U
PM ₁₀	SM						U
PT (Particulate)	SM						U
VOC	A					A	U
THAP (Total HAPs)	B						U
			APPLICABLE SUBPART				

^a Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

^b AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

9. FEES

Fees apply to this facility in accordance with IDAPA 58.01.01.407. A fee assessment has been prepared for \$10,000 as calculated in Appendix C.

10. RECOMMENDATION

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue Tier II Operating Permit and Permit to Construct No. T2-020121 to Potlatch Corporation, Lumber Drying Division, in St. Maries. An opportunity for public comment on the air quality aspects of the proposed permit was provided in accordance with IDAPA 58.01.01.404.01.c. The response to the facility's comments on the initial facility draft are included in Appendix D. The response to the facility's comments on the proposed permit are included in Appendix E.

CZ/sd

T2-020121

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APPENDIX A

Dispersion Modeling

MEMORANDUM

TO: Carole Zundel, Air Quality Engineer, Air Program Division
Mary Anderson, Air Modeling Coordinator, Air Program Division

FROM: Kevin Schilling, Air Quality Scientist, State Office of Technical Services *KS*

SUBJECT: Modeling review for the Pottlatch Corporation, Wood Products, Western Division, St. Maries Complex, Tier II application; St. Maries, Idaho, facility

DATE: December 19, 2002

1. SUMMARY:

Pottlatch Corporation, Wood Products, Western Division, St. Maries Complex (Pottlatch St. Maries) submitted a Tier II operating permit application for their lumber drying facility located in St. Maries, Idaho. Atmospheric dispersion modeling of facility-wide emissions were submitted with the Tier II operating permit application to demonstrate that emissions from the modification would not cause or significantly contribute to a violation of an ambient air quality standard, as required by IDAPA 58.01.01.403.02.

2. DISCUSSION:

This section describes the regulatory modeling requirements and the methodology used for the analyses performed.

2.1 Introduction and Regulatory Requirements for Modeling

On August 19, 1996, DEQ received a Tier II operating permit application from Pottlatch St. Maries for their facility located in St. Maries, Idaho. On September 9, 2002, an amendment to the Tier II application was received by DEQ. The facility includes a wood-waste boiler and lumber drying kilns. The application was declared complete on November 21, 2002.

No Tier II operating permit can be granted; per IDAPA 58.01.01.403.02, unless the applicant demonstrates to the satisfaction of DEQ that emissions from the facility "would not cause or significantly contribute to a violation of any ambient air quality standard." Emissions estimates and atmospheric dispersion modeling analyses were provided by Pottlatch St. Maries' consultants, MFG, Inc. (MFG).

2.2 Applicable Air Quality Impact Limits and Required Analyses

The Pottlatch St. Maries facility is located in Benewah County, designated as an attainment or unclassifiable area for sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), lead (Pb), ozone (O₃), and particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀).

If estimated maximum impacts to ambient air from the emissions sources at the facility exceed the "significant contribution" levels of IDAPA 58.01.01.006.93, then DEQ modeling guidance requires a full impact analysis. A full impact analysis for attainment area pollutants requires adding ambient impacts from facility-wide emissions to a DEQ approved background concentration value that is appropriate for each criteria pollutant at the facility location. The resulting maximum ambient air concentration is then compared to the National Ambient Air Quality Standards (NAAQS) listed in Table 1. Table 1 also specifies the modeled value that must be used for comparison to the NAAQS.

Table 1. Applicable Regulatory Limits

Pollutant	Averaging Period	Regulatory Limit ^a ($\mu\text{g}/\text{m}^3$) ^b	Modeled Value Used ^c
Nitrogen dioxide (NO_2)	Annual	100 ^d	Maximum 1 st highest ^e
Sulfur dioxide (SO_2)	3-hour	1,300 ^f	Maximum 2 nd highest ^g
	24-hour	365 ^f	Maximum 2 nd highest ^g
	Annual	80 ^d	Maximum 1 st highest ^e
Carbon monoxide (CO)	1-hour	40,000 ^f	Maximum 2 nd highest ^g
	8-hour	10,000 ^f	Maximum 2 nd highest ^g
PM ₁₀ ^g	24-hour	150 ^f	Maximum 6 th highest ^g
	Annual	50 ^d	Maximum 1 st highest ^e
Lead (Pb)	Quarterly	1.5 ^d	Maximum 1 st highest ^e

^a IDAPA 58.01.01.577

^b Micrograms per cubic meter

^c When using five years of meteorological data

^d Not to be exceeded

^e Concentration at any modeled receptor using five years of meteorological data

^f Not to be exceeded more than once per year

^g Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

An ambient air assessment of Toxic Air Pollutant (TAP) impacts was not performed for the facility to demonstrate compliance with IDAPA 58.01.01.161.

2.3 Background Concentrations

DEQ provided MFG with background concentration values in July 2002. DEQ has subsequently refined applicable background concentration values for numerous areas in Idaho. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. PM₁₀ concentrations of up to 101 $\mu\text{g}/\text{m}^3$ have been measured in St. Maries. However, because impacts from the Potlatch St. Maries facility occur outside of the city, these concentrations are not appropriate for the site. The Tier II application submitted did not include the most recently revised background values. Table 2 lists these revised background concentrations.

Table 2. Background Concentrations

Pollutant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$) ^a
Nitrogen dioxide (NO_2)	Annual	17
Sulfur dioxide (SO_2)	3-hour	33
	24-hour	26
	Annual	7.3
Carbon monoxide (CO)	1-hour	3,600
	8-hour	2,300
PM ₁₀ ^b	24-hour	73
	Annual	26
Lead (Pb)	Quarterly	0.03

^a Micrograms per cubic meter

^b Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

2.4 Modeling Impact Assessment

Table 3 provides a summary of the modeling parameters used for the DEQ analysis.

Table 3. Modeling Parameters

Parameter	Description/Values	Documentation/Additional Description
Model	ISC-PRIME	Version 99020
Meteorological data	Surface and Upper Air Spokane, Washington	1987-1991
Model options	Regulatory Default	
Land use	Rural	Low population density in area and large fraction of unimproved land
Terrain	7.5 min DEM	Receptor elevations automatically extracted from DEM by BEEST software
Building downwash	Used building profile input program for PRIME (BPIP-PRIME)	Building dimensions obtained from modeling files submitted
Receptor grids (See Figure 1)	Grid 1	25 meter spacing along site boundary out to 100 meters
	Grid 2	50 meter spacing out to 200 meters
	Grid 3	100 meter spacing out to 500 meters
	Grid 4	200 meter spacing out to 1,000 meters
	Grid 5	500 meter spacing out to 3,000 meters
	Grid 6	1,000 meter spacing out to 10,000 meters
Facility location (UTM) ^a	Easting	534 kilometers
	Northing	5,241 kilometers

^a Universal Transverse Mercator

2.4.1 Modeling Protocol

A modeling protocol was not submitted to DEQ prior to the application.

2.4.2 Model Selection

The initial ambient air impact analyses were performed by MFG using the model ISC-PRIME. DEQ verification modeling was performed using ISC-PRIME – Version 99020. ISC-PRIME was used because the close proximity of buildings to the facility property line requires consideration of pollutant concentrations within building recirculation cavities. ISCST3 does not calculate pollutant concentrations within building recirculation cavities.

2.4.3 Meteorological Data

Surface and upper air meteorological data from Spokane, Washington, were used in the modeling analyses. MFG used meteorological data from 1985 through 1989. DEQ used meteorological data collected from January 1987 through December 1991 to maintain consistency with other permitting analyses in the area. DEQ determined that these data were the most representative data available for the area.

PCRAMMET occasionally generates unrealistically low mixing heights as a result of interpolation algorithms used with the twice daily measured mixing heights. MFG replaced all mixing height values below 50 meters with a value of 50 meters. DEQ verification modeling was conservatively performed using data corrected only for mixing heights below 30 meters.

2.4.4 Terrain Effects and Facility Layout

The modeling analyses submitted by MFG consider elevated terrain. Source, building, and receptor elevations were regenerated for the DEQ verification modeling using USGS 7.5 minute Digital Elevation Model (DEM) files. DEQ also verified proper identification of the facility boundary and

buildings on the site by comparing the modeling input to a facility plot plan submitted with the application and aerial photographs of the area. Figure 1 shows the emission sources, buildings, and receptors included in the dispersion modeling analysis.

2.4.5 Building Downwash Effects

Plume downwash effects caused by structures present at the facility were accounted for in the modeling analyses. The Building Profile Input Program for ISC-PRIME (BPIP-PRIME) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emissions release parameters.

2.4.6 Receptors

DEQ verification modeling was conducted using the following grid of ambient air receptors shown in Table 3. A receptor grid extending out 10,000 meters was used to ensure that emissions from the 50 ft stack, under stable atmospheric conditions, would not cause high pollutant concentrations at distant receptors located on elevated terrain.

2.4.7 Emission Rates

Emissions rates used in the dispersion modeling analyses submitted by the applicant were reviewed against those in the permit application. The following approach was used for DEQ verification modeling:

- All modeled emissions rates were equal to or greater than the facility's emissions calculated in the Tier II operating permit application or the permitted allowable rate.
- Emissions release parameters (stack location, stack height, stack diameter, exhaust temperature, and exhaust velocity) used in the model were checked against those specified in the Tier II operating permit application.
- Modeling results were compared to "significant contribution" thresholds. More extensive review of modeling parameters selected was conducted when model results approached applicable thresholds.

Table 4 provides emissions quantities for criteria pollutants. Criteria pollutant emissions rates from the boiler were based on factors from AP-42 Section 1.6 Wood Residue Combustion in Boilers, except for PM₁₀. A PM₁₀ emission of 7.8 lb/hr, based on the exhaust grain-loading guarantee of 0.08 grains per dry standard cubic foot of offgas (gr/dscf), was used by MFG rather than an AP-42 factor. The kiln PM₁₀ emissions rate was based on an emissions factor of 0.08 lb per thousand board feet of lumber dried. This factor was provided by the National Council for Air and Stream Improvement (NCASI).

Table 4. Criteria Pollutant Emissions Rates Used for Modeling

Source (Id Code)	Maximum Hourly Emissions Rate Increase ^a (lb/hr) ^b				Hourly Rate Used for Annual Modeling ^c (lb/hr)			
Pollutant	PM ₁₀ ^d	SO ₂ ^e	NO _x ^f	CO ^g	PM ₁₀	SO ₂	NO _x	CO
Boiler (BOILER)	8.1	1.4	NM ^h	32.4	8.1	1.4	11.9	NM ^h
Kiln vents, 35 total (KILNA1 - KILNE7)	0.9 (0.0257) ⁱ	0.0	NM ^h	0.0	0.9 (0.0257) ⁱ	0.0	0.0	NM ^h

^a Emission rate used for 24-hour, 8-hr, 3-hr, and 1-hr averaging periods

^b pounds per hour

^c Emission rate used for annual averaging period

^d Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

^e Sulfur dioxide

^f Oxides of nitrogen

^g Carbon monoxide

^h Not modeled because there is no standard associated with the specified averaging period

ⁱ Emissions rate for each modeled release point

2.4.8 Emission Release Parameters

Table 5 provides emissions release parameters.

Table 5. Emissions and Stack Parameters

Source / Location	Source Type	Stack Height (m) ^a	Stack Diameter (m)	Stack Gas Temp. (K) ^b	Stack Gas Flow Velocity (m/sec)
Boiler (BOILER)	Point	15.24	1.0	505	14.2
Kiln vents, 34 total (KILNA1 - KILNE7)	Point	7.2	0.64	355	2.0

^a Meters

^b Kelvin

^c Horizontal release set at 0.001 to eliminate momentum induced buoyancy

3.0 MODELING RESULTS:

This Section describes dispersion modeling results from the significant impact analysis, the full impact analysis, and the TAP analysis.

3.1 Significant Impact Analysis Results

Modeled pollutant impacts to ambient air, obtained from the significant impact analysis, are provided in Table 6. The values reported in this memorandum were obtained from DEQ verification modeling. Results of the significant impact analysis indicate that a full ambient impact analysis is required, as per DEQ modeling guidance, because emissions from facility-wide emissions may result in impacts exceeding significant contribution levels.

Table 6. Significant Impact Analysis for Criteria Pollutants

Pollutant	Averaging Period	Ambient Impact ($\mu\text{g}/\text{m}^3$) ^a	Significant Contribution ^b ($\mu\text{g}/\text{m}^3$)	Full Impact Analysis Required (Y or N)
PM ₁₀ ^c	24-hour	65.4	5.0	Y
	Annual	18.7	1.0	Y
Carbon Monoxide (CO)	1-hour	558	2,000	N
	8-hour	306	500	N
Sulfur dioxide (SO ₂)	3-hour	14.9	25	N
	24-hour	9.2	5	Y
	Annual	1.01	1.0	Y
Nitrogen dioxide (NO ₂)	Annual	8.6	1.0	Y

^a Concentration in micrograms per cubic meter

^b Significant contribution level as per IDAPA 58.01.01.006.93

^c Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

3.2 Full Impact Analysis Results

A full impact analysis involves modeling facility-wide emissions and adding an appropriate background concentration value to those results. Results of the full impact analysis are presented in Table 7.

Modeled air pollutant concentrations in ambient air, including a conservative background concentration value, are all well below NAAQS, except for PM₁₀. Maximum PM₁₀ concentrations for both the 24-hour and annual averaging periods are 89% of the NAAQS. Table 8 shows the individual contributions of the boiler and the kilns to modeled PM₁₀ concentrations in ambient air. Although the

emissions rate from the kilns is well below that of the boiler, maximum modeled PM₁₀ impacts are greater. This is primarily a result of building downwash, enhanced by roof-top release, and the close proximity of the source to ambient air receptors. Figure 2 shows 6th highest 24-hour averaged modeled PM₁₀ concentrations. The entire modeling domain is not shown in Figure 2.

Table 7. Full Impact Analysis for Criteria Pollutants (Facility-wide Emissions)

Pollutant	Averaging Period	Ambient Impact. ($\mu\text{g}/\text{m}^3$) ^a	Background Conc. ($\mu\text{g}/\text{m}^3$)	Total Ambient Conc. ($\mu\text{g}/\text{m}^3$)	Regulatory Limit ^b ($\mu\text{g}/\text{m}^3$)	Percent of NAAQS
PM ₁₀ ^c	24-hour	60.1 ^d	73	133	150	89
	Annual	18.7 ^e	26	44.7	50	89
Sulfur dioxide (SO ₂)	24-hour	8.2 ^f	26	34	365	9
	Annual	1.01 ^e	7.3	8.3	80	10
Nitrogen dioxide (NO ₂)	Annual	8.6 ^e	17	25.6	100	26

^a. Concentration in micrograms per cubic meter

^b. IDAPA 58.01.01.577

^c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

^d. Maximum 6th highest modeled value at any receptor

^e. Maximum 1st highest modeled value at any receptor

^f. Maximum 2nd highest modeled value at any receptor

Table 8. Source-Specific Pollutant Contributions

Source / Pollutant	Averaging Period	Ambient Impact. ($\mu\text{g}/\text{m}^3$) ^a	Background Conc. ($\mu\text{g}/\text{m}^3$)	Total Ambient Conc. ($\mu\text{g}/\text{m}^3$)	Regulatory Limit ^b ($\mu\text{g}/\text{m}^3$)	Percent of NAAQS
Boiler - PM ₁₀ ^c	24-hour	37.1 ^d	73	110	150	73
	Annual	6.1 ^e	26	32.1	50	64
Kilns - PM ₁₀ ^c	24-hour	60.1 ^d	73	133	150	89
	Annual	18.4 ^e	17	35.4	50	71

^a. Concentration in micrograms per cubic meter

^b. IDAPA 58.01.01.577

^c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

^d. Maximum 6th highest modeled value at any receptor

^e. Maximum 1st highest modeled value at any receptor

3.3 TAP Analysis Results

No TAP analysis was conducted for this Tier II operating permit.

4.0 CONCLUSION

All modeling results of criteria pollutants are below NAAQS.

Electronic copies of the modeling analysis are saved on disk. Table 9 provides a summary of the files used in the modeling analysis. The permitting engineer has reviewed this modeling memo to ensure consistency with the Tier II operating permit and technical memorandum.

Table 9. Dispersion Modeling Files		
Type of File	Description	File Name
Met data	Surface and upper air from Spokane, Washington NWS data: January 1987 - December 1991	GegXXRuAdj.ASC (rural mixing heights adjusted)
BEEST input files	24-hour PM ₁₀ , SO ₂ , CO	StMariesDEOMet24.BST
	Annual PM ₁₀ , NO ₂ , SO ₂	StMariesAnnXXDEOMet.BST XX = year of met data
Each BST file has the following type of files associated with it:		
Input file for BPIP program		.PIP
BPIP output file		.TAB
Concise BPIP output file		.SUM
BEE-Line file containing direction specific building dimensions		.SO
ISCST3 input file for each pollutant		.DTA
ISCST3 output list file for each pollutant		.LST
User summary output file for each pollutant		.USF
Master graphics output file for each pollutant		.GRF
Some modeling files have the following type of graphics files associated with them:		
Surfer data file		.DAT
Surfer boundary file		.BLN
Surfer post file containing source locations		.TXT
Surfer plot file		.SRF

KS: G:\Technical Services\Modeling\Schilling\Fottletch StMaries\Modeling Tech Memo.doc

Figure 1 - Potlatch St. Maries Tier II Operating Permit

Modeling Receptor Grid, Buidlings, and Emissions Sources

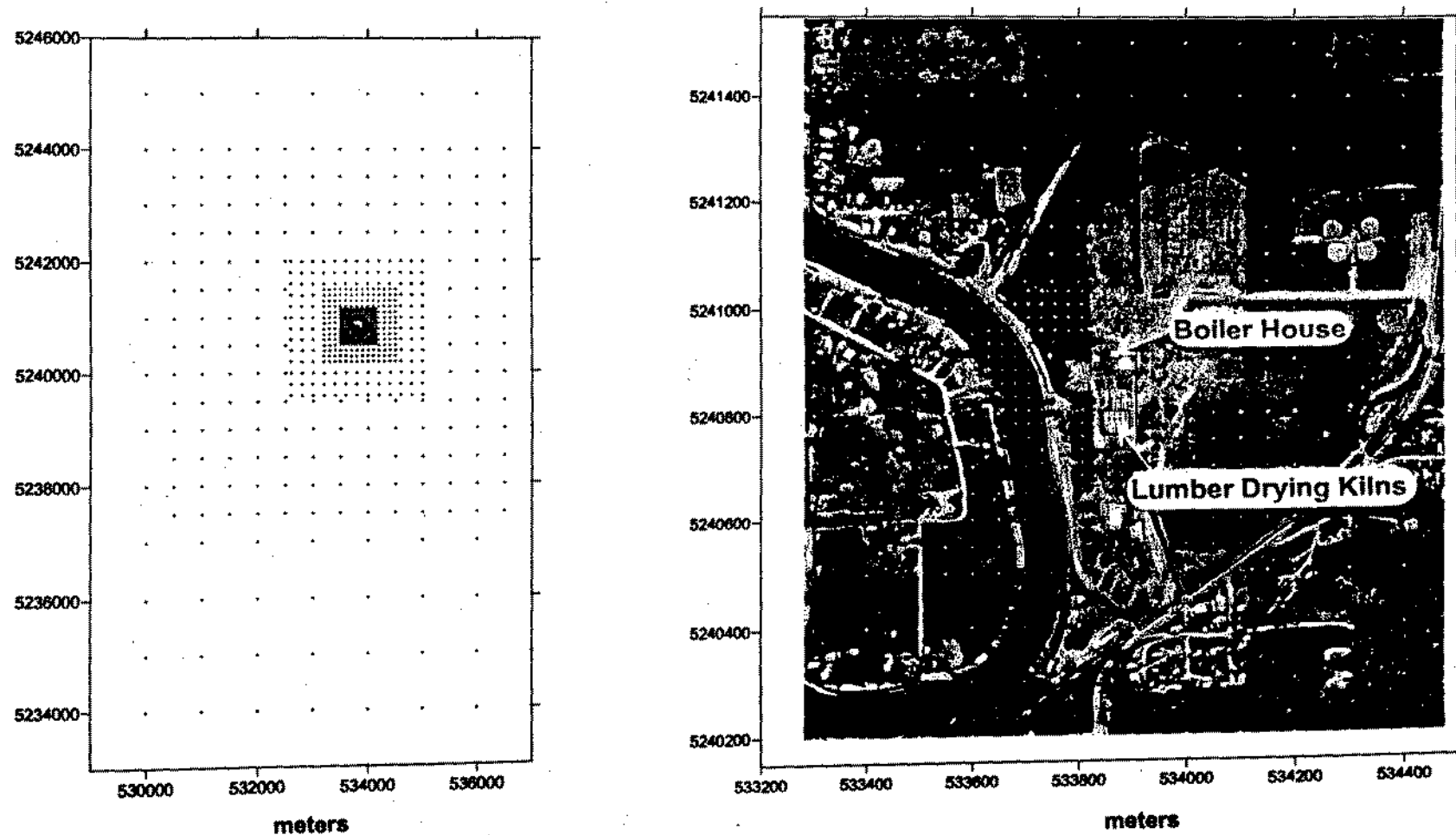
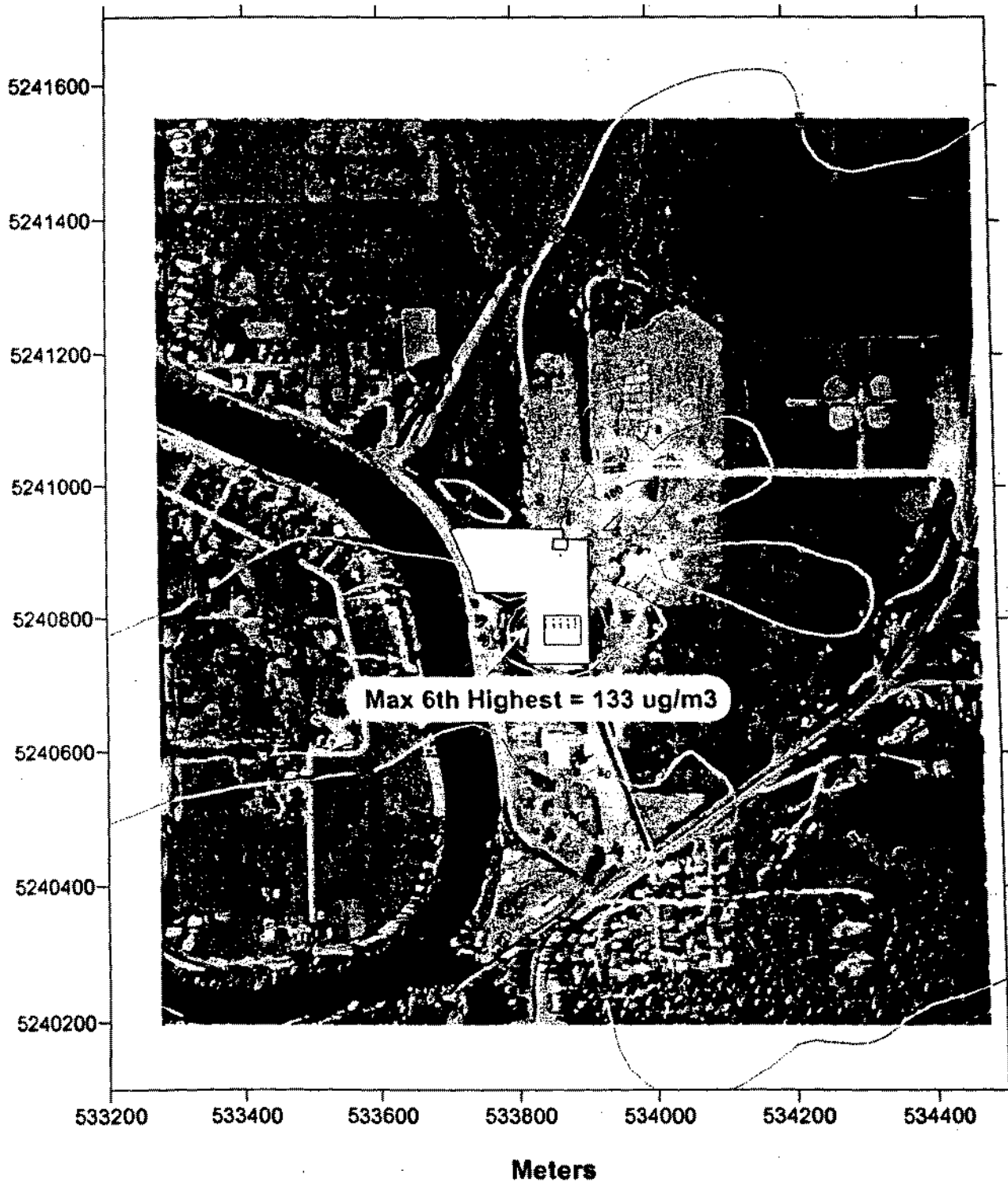


Figure 2 - Potlatch St. Maries Tier II Operating Permit
6th Highest 24-Hour Averaged PM₁₀ Concentrations (ug/m³)



APPENDIX B

Emission Estimates

Boiler Emissions Estimate

(This spreadsheet has been modified to incorporate the increase (see e-mail from John Emery to Carole Zundel, 11/6/02) in the maximum heat input estimate from 49 to 54 MMBtu/hr. The estimate of 49 MMBtu/hr originated from the Edwards permit application prior to installation of the boiler.)

Pollutant	Emission Factor (lb/MMBtu)	Source	lb/hr	TPY
NOx	0.22	AP-42	11.9	52.0
CO	0.6	AP-42	32.4	141.9
SO2	0.025	AP-42	1.4	5.9
VOC	0.038	AP-42	2.1	9.0
Maximum Heat Input (MMBtu/hr):		54	Max hours per year:	8760

AP-42 emission factors from Section 1.6 Wood Residue Combustion in Boilers, Table 1.6-2, Bark/bark and wet wood/wet wood-fired boiler.

PM10 Emissions Estimate - with ESP

ESP Stack Exit Temperature	450 fahrenheit
	505.37 kelvin
ESP Flow Rate	22000 acfm
Manufacturer Grain-Loading Guarantee	0.08 grains per dscf
Flow Rate at Standard Temperature	12761.5 scfm
Flow Rate at Standard Temperature and Pressure	11804.4 scfm
Grains PM10 per Minute	944.4 grains
Pounds PM10 per Hour	8.1 lb/hr
Tons PM10 per Year	35.5 TPY

Conversion to standard temperature done in Kelvin.

Conversion to standard pressure done in Atmospheres (atm).

PM10 Emissions Estimate - without ESP

Stack Exit Temperature	450 fahrenheit
	505.37 kelvin
Flow Rate	22000 acfm
Manufacturer Grain-Loading Guarantee	0.2 grains per dscf
Flow Rate at Standard Temperature	12761.5 scfm
Flow Rate at Standard Temperature and Pressure	11804.4 scfm
Grains PM10 per Minute	2360.9 grains
Pounds PM10 per Hour	20.2 lb/hr
Tons PM10 per Year	88.6 TPY

Conversion to standard temperature done in Kelvin.

Conversion to standard pressure done in Atmospheres (atm).

Lumber Dry Kiln Emission Factors

Pollutant	Douglas Fir (lbs/mbf) ^(a)	Pine (lbs/mbf) ^(b)	Cedar (lbs/mbf) ^(c)	Max EF lbs/mbf
PM as carbon		0.159	0.04	0.159
PM10	0.11	0.0795	0.04	0.08
VOCs	0.324	1.7	0.142	1.7

^(a) Provided by Jim Wilson of the Olympic Air Pollution Control Agency (OAPCA), 12/7/01.

^(b) Based on emission factors from AP-42 (12/93) Draft Section 10. (see CTEC letter Nov. 20th, 1997)

Like the fir emission factors, MFG assumed that the pine VOCs are 99% terpene and 1% phenol for pine.

^(c) In a January 4, 2002 phone call with Sean Williams of MFG, Jim Wilson at OAPCA indicated that due to a lack of cedar-specific information, hemlock emission factors could be used in their place.

Hemlock/cedar numbers came from Simpson Timber Company Tacoma Sawmill NOC Application. April 26, 1999.

Potential to Emit

Pollutant	102,000 mbf processed per year	
	lb/hr	TPY
PM as carbon	1.85	8.1
PM10	0.93	4.1
VOCs	19.79	86.7

APPENDIX C

Fee Calculation Sheet

Tier II Fee Calculation

Instructions:

Insert the following information and answer the following questions either Y or N.
Insert the permitted emissions in tons per year into the table. TAPS only apply
when the Tier II is being used for New Source Review.

Company: Pottlatch St. Maries
Address: 2200 Railroad Ave.
City: St. Maries
State: ID
Zip Code: 83861
Facility Contact: Bernie Willmarth
Title: Environmental Manager
AIRS No.: 009-00030

N Did this permit meet the requirements of
IDAPA 58.01.01.407.02 for a fee
exemption Y/N?

N Does this facility qualify for a general
permit (i.e. concrete batch plant, hot-mix
asphalt plant)? Y/N

N Is this a synthetic minor permit? Y/N

Emissions Inventory	
Pollutant	Permitted Emission Tons/yr
NO _x	52.0
PM ₁₀	39.6
PM	43.6
SO ₂	5.9
CO	141.9
VOC	135.6
HAPS/TAPS	5.9
Total:	424.5
Fee Due	\$ 10,000.00

Comments:

PM includes PM₁₀. PM₁₀ is therefore counted twice, though it
doesn't change the fee assessment.

APPENDIX D

Response to Comments on Facility Draft

Response to Comments

Potlatch St. Maries Tier II

Comment #1

Condition 2.4 This language should be incorporated into Permit Condition 2.4 of the Tier I Operating Permit. The Tier II permit specifies quarterly inspections and the Tier I specifies monthly inspections. Both permits should be the same and Potlatch feels the quarterly inspections are sufficient to ensure environmental compliance.

Response #1

The permit condition will be changed to monthly to be consistent with the Potlatch Clearwater permit.

Comment #2

Condition 2.8 The permit is requiring monthly visible emission inspections of all potential sources. Potlatch requests that this condition be amended by adding "If four consecutive monthly see/no see observations indicate that no visible emissions are observed from any of the four observations or if four consecutive monthly Method 9 observations indicate that opacity is below 20% for each of the four, seven and one half minute, observations; or any combination of four consecutive monthly see/no see or Method 9 observations, the frequency of observations decreases to once per quarter. If any quarterly Method 9 observations indicate opacity greater than 20%, the observation frequency reverts to monthly." This would be language consistent with the language in Permit Condition 4.3 of the Tier I Operating Permit.

Response # 2

Will be changed with minor modifications. The added wording is as follows: "If the monthly see/no see observations indicate that no visible emissions are observed for four consecutive months or if Method 9 observations indicate that the opacity is below 20% for four consecutive months, or any combination of see/no see or Method 9 observations indicate no visible emissions or opacity, the frequency of observations decreases to once per quarter. If any quarterly Method 9 observations indicate opacity greater than 20%, the observation frequency reverts to monthly."

Comment #3

Condition 3.2 The multiclone is not germane to the success of the Hurst boiler achieving compliance for PM, PM₁₀, and opacity, because of the ESP. Therefore, Potlatch requests reference to the multiclone be deleted from this description.

Response to Comments
Potlatch St. Maries Tier II

Response #3

The ESP will be tested for particulate emissions with the multiclone operating. A multiclone is a control device for particulate. The multiclone may also be a piece of process equipment. In addition to process equipment, it is also an emission control device. The operation of the multiclone may or may not change the value of the emissions from the ESP. Because the emission testing will be done with the multiclone in place, and a multiclone is a particulate emission control device, to be accurate in the permit, the multiclone must be included in the description of control equipment.

Comment #4

Condition 3.3 Emission limitations for SO₂, NO_x, CO and VOC are not justified. Specifically, there is no regulatory basis for these limits. Information provided by Potlatch in the application for this Tier II to estimate emissions from the boiler was not intended to result in emissions limitations. Please delete these limits from the draft Tier II permit.

Response #4

These limits have been taken out for the boiler and the kilns. The values are left in the potential to emit table, but are not limits.

Comment #5

Condition 3.4 Control Device Requirements – Potlatch requests that Permit Conditions 3.4.1 and 3.4.2 read as follows:

Condition 3.4.1 "The permittee shall install an ESP to control PM and PM₁₀ emissions from the Hurst boiler. The ESP will be maintained in good working order and operated as efficiently as practical, in accordance with the Operations and Maintenance (O&M) manual specifications, required to be developed in Condition 3.13."

As stated in the comments for Permit Condition 3.2, the multiclone should not be referenced as required control equipment.

Condition 3.4.2 "If performance testing done in compliance with Permit Condition 3.8 verifies compliance with Permit Conditions 3.3 (PM and PM₁₀), 2.7 and 2.13 when operating only one of the transformer rectifier (T/R) sets, then the boiler may be operated for a reasonable period of time using one T/R set on the ESP, if one set becomes nonfunctional and is awaiting repairs. Repairs shall be made as expeditiously as possible to the nonfunctional T/R and placed back into operation."

Response to Comments
Potlatch St. Maries Tier II

Response #5

For Condition 3.4.1, the multiclone must remain included as addressed in Response #3. For Condition 3.4.2, the reference to Permit Condition 3.9 was removed (as requested) because the re-testing frequency was intended to apply to operation when the ESP is operating in non-breakdown conditions. When one T/R set is temporarily not operating due to breakdown of the T/R set while waiting for replacement equipment, the re-test frequency does not need to be increased. The reference to Permit Condition 3.10 was left in because otherwise, the unit would be allowed to operate in violation of the terms of the permit. Similarly, the reference to Permit Conditions 2.7 and 2.13 were left in because otherwise, the ESP would be allowed to temporarily operate in violation of the opacity and grain loading standards.

Comment #6

Condition 3.7 This definition of the average steaming rate should be incorporated into Permit Condition 3.3 of the Tier I Operating Permit.

Response #6

This will be done.

Comment #7

Condition 3.13 Potlatch requests that references to the multiclone be deleted from this section. See comments for Permit Condition 3.2.

Response #7

See Response #3.

Comment #8

Condition 4.3 Emissions limits for the kilns are not justified. There is no regulatory basis for emissions limits to be imposed on these units at this time. Information provided in the application to estimate emissions from the kilns was not intended to result in emissions limitations in the permit. Please delete these emissions limitations from the draft Tier II.

Response #8

The VOC limits will be removed. The VOC potential to emit will be listed in the potential to emit table, but is not a limit. As agreed to in a meeting between DEQ and Potlatch on September 30, 2003, the PM₁₀ limit will be removed because the emissions were estimated at the maximum potential to emit for the kilns, using 102 MM board feet per year and an emission factor from NCASI. Tracking of the throughput of the kilns will remain to ensure that the throughput stated in the permit application and used for the technical analysis is not exceeded, although the throughput is not specifically limited in the permit.

APPENDIX E

Response to Comments on Proposed Permit

January 29, 2004

STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY
RESPONSE TO PUBLIC COMMENTS
ON THE PROPOSED TIER II OPERATION PERMIT FOR THE
POTLATCH CORPORATION, ST. MARIES, IDAHO

Introduction

As required by IDAPA 58.01.01.404, *Rules for the Control of Air Pollution in Idaho (Rules)*, the Department of Environmental Quality (DEQ) provided for public notice and comment on the proposed Tier II operating permit for the Potlatch Corporation located in St. Maries, Idaho. Public comment packages, which included the application materials, the permit, and associated technical memoranda, were made available for public review at the St. Maries Public Library, and the DEQ's State Office in Boise and Coeur d'Alene Regional Office in Coeur d'Alene. The public comment period was provided from December 18, 2003 through January 16, 2004. Written comments were received. Those comments are written below with DEQ's response immediately following.

Public Comments and DEQ Responses

Responses to the comments received from Potlatch Corporation on January 21, 2004 are provided below:

Comment 1: **Condition 4.4** Although Potlatch does not object to monitoring and recording throughput of the kilns, we feel this is unnecessary because our interpretation of the permit indicates that there are no throughput limits in the permit. For informational purposes, we are agreeable to this monitoring.

Response to 1: The monitoring and recordkeeping requirements are necessary to assure compliance with the PM10 NAAQS. Through negotiations with Potlatch as the permit was developed, the DEQ agreed to remove the PM10 emissions rate limits from the permit as requested by Potlatch only because ambient air quality modeling predicts that the emissions will not cause or contribute to a violation of the NAAQS. The modeling analysis was based on what is considered to be the maximum throughput to the kilns – 102 million board feet per year. However, the DEQ is uncertain as to what exactly the maximum throughput is because this information, as provided by Potlatch, has varied through time. In order to assure the PM10 NAAQS is protected, the DEQ requires that the throughput to the lumber drying kilns, as provided by Potlatch and evaluated by DEQ, be monitored and recorded.

Comment 2: **Table 6.2** There is ambiguity over enforceability created by including this table in a section entitled "Emission Limits" and yet excluding any conditions in the permit imposing emission limits. Again, our interpretation is that this table is for information purposes only, as there are no stated emission limits, nor should there be, in the permit.

Response to 2: The permit has been amended as requested by Potlatch. Table 6.2 reflects the potential to emit for the facility and is intended only for informational purposes.

Comment 3: **Tech Memo, page 5** The chronology (5/23/03) states that a second draft was mailed and no comments were received. In actuality, comments were submitted by Potlatch on July 1, 2003 and were responded to by IDEQ. Potlatch again responded to IDEQ's response on Sept. 5, 2003 by requesting a meeting which was held on Sept. 30, 2003. Potlatch submitted information requested by IDEQ at this meeting on 10/31/03.

Response to 3: The chronology was last updated after the date that the comments were due. At that time, no comments had been received.

The final technical memorandum has an updated chronology of events.

Comment 4: **Tech Memo, page 13** The Compliance Review indicates that our compliance status is uncertain. The Summary of Events on page 4 clearly show that Potlatch Corporation has been trying to resolve any compliance issues relating to this facility for nearly ten years. It was our understanding that the issuance of the Tier II Permit would be the resolution to the unresolved compliance determination. Therefore, we feel this paragraph should state that the compliance review indicates full compliance.

Response to 4: The referenced paragraph in the tech memo has been reworded as follows:

"A PTC was required to be obtained prior to construction of the boiler and kilns. A PTC was obtained by the previous owners of the boiler and kilns, but a new PTC was not obtained prior to the purchase or operation of the equipment by Potlatch from the original owners (Edwards). The technical memorandum for the proposed permit stated that DEQ was in the process of making a compliance determination and resolution. This permit to construct and Tier II operating permit establishes enforceable limitations to limit the facility's potential to emit and also identify Potlatch as the owner and operator of the St. Maries Complex. Consequently, this permitting action resolves past compliance issues."